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NOTES ON LEPIDOPTERA COLLECTED IN A CONNECTICUT-RHODE ISLAND WOODLAND.

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During most of the summer of 1930 the author collected moths in a considerable area of woodland located near the town of East Killingly, Conn. Collecting was strictly limited to the woodland environment. The results are therefore interesting in two ways, as furnishing some data on the Lepidopterous population of this particular type of habitat, and as productive of new distribution records for a considerable number of species.

THE ENVIRONMENT.

Collecting was done by means of both light and "sugaring" on the south shore of Killingly Pond, almost exactly on the Connecticut-Rhode Island border (Fig. 1). While the majority of the specimens were actually taken in Rhode Island records may safely be attributed to Connecticut also, as none of the specimens recorded was taken more than 100 feet from the State line.

Killingly Pond is roughly three-quarters of a mile long by a half a mile wide. It is fed almost entirely by subsurface springs, being entered by only two small streams, both of which are often dry. The water is thus unusually clean and cool. The pond has been considerably enlarged by a dam at the outlet, its water being used by a mill. The water level is subject to considerable fluctuation.

On all sides of the lake are woods. Those on the eastern side have been recently cut; and here much second-growth of the normal woodland trees and shrubs is struggling with an intrusive growth of species more characteristic of open meadows and hill-sides.

The area immediately surrounding the collecting locality is comparatively undisturbed woodland. In places near the lake-shore the lower branches of the trees have been trimmed, and a woodroad runs parallel to the shore. Both of these factors have caused the introduction of a few species of plants more typical of other environments. In general four plant association groups are recognizable. (Figs. 1 & 2):

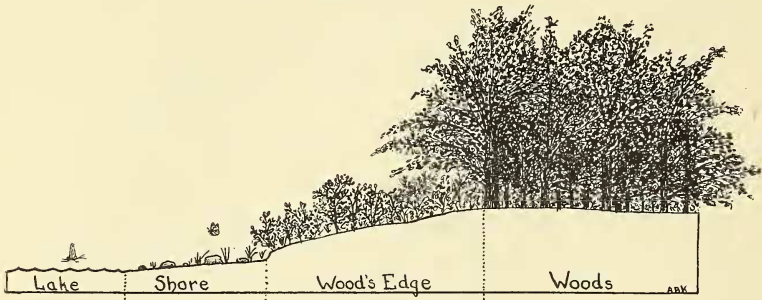


Fig. 1

Fig. 1. Vertical section along NW-SE line through area collected, south shore of Killingly Pond.

a. Lake. Killingly Pond supports surprisingly little aquatic vegetation. The bottom is largely sand and gravel, thickly studded with large granite and gneiss boulders. Occasional masses of a green Alga (*Ulothrix?*) occur, floating loose, and *Chara* also occurs uncommonly, sometimes at considerable depths. Water lilies (*Castalia*) though very abundant on neighboring ponds are practically absent.

Of the Lepidoptera taken *Elophila plevie* Dyar, *Geshna primordialis* Dyar and the three species of *Nymphula* may safely be assigned to this area.

b. Shore. Due to the fluctuations of the water level a rather abnormally wide area of shore-line supports little permanent vegetation. The ground is mainly sand and gravel, thickly covered with stones and boulders. In many places where the more gently sloping shore has caused the formation of coves the shore area becomes greatly broadened. The dominant vegetation consists of grasses, sedges, goldenrods (*Solidago*), and asters (*Aster* spp.).

c. Wood's Edge. A zone along the edge of the woods varying in width from only a foot or two up to fifteen or twenty feet sup-

ports a growth of many species not found in the true woods area. The determining factors in the limitation of this zone appear to be light, humidity and soil. Most of the species cannot support themselves under the shade of the taller trees. Lacking this shade to prevent evaporation of water from the soil, exposed to a much greater run-off of surface water due to proximity to the more steeply sloping and less protected shore line, and exposed to winds and storms from the lake with consequently smaller opportunities for the retention of dead leaves and the formation of humus, this area supports those species which can exist in a dryer and more barren environment than the true woods species. Table I gives a census of the woody plants of this and the woods area, as illustrating these points. It will be noted that here occur many species that commonly occur in open meadows and often on barren hillsides.

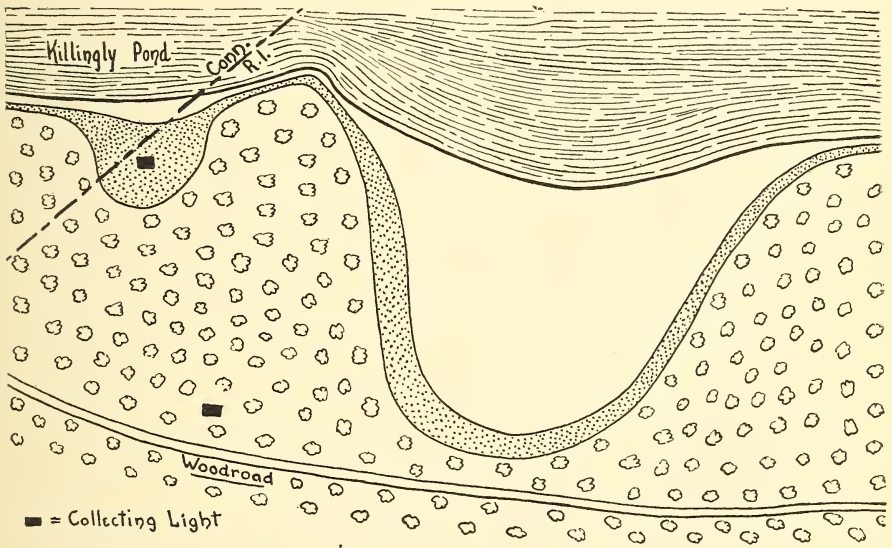


Fig. 2

Fig. 2. Map of area collected, south shore of Killingly Pond, to show plant association groups.

TABLE I—Woody Plants of *Wood's Edge* and *Woods* Areas.
VC = very common, C = common, S = scarce, R = rare.

Name of Plant	In Wood's Edge Area	In Wood's Area
Meadowsweet		
<i>S. salicifolia</i>	C +	
Bayberry		
<i>Myrica carolinensis</i>	C -	
Sweet Fern		
<i>Comptonia peregrina</i>	C -	
Willow		
<i>Salix</i> sp.	C	
Black Chokeberry		
<i>Aronia nigra</i>	C +	
Highbush Blueberry		
<i>V. corymbosum</i> & vars....	VC	C
Winterberry		
<i>Ilex verticillata</i>	C +	C -
Huckleberry		
<i>Gaylussacia resinosa</i>	C +	C
White Birch		
<i>Betula populifera</i>	S	R
Sweet Clethra		
<i>C. alnifolia</i>	S	C +
Hazelnut		
<i>Corylus americana</i>	C	VC
Chestnut		
<i>Castanea dentata</i>		VC +
White Oak		
<i>Q. alba</i>		VC +
Red Oak		
<i>Q. rubra</i>		VC
Scrub Oak		
<i>Q. ilicifolia</i>		VC
Wild Cherry		
<i>Prunus serotina</i>		VC
Witch Hazel		
<i>Hamamelis virginiana</i>		VC
Shagbark Hickory		
<i>Carya ovata</i>		C +
Red Maple		
<i>Acer rubrum</i>		C +
White Pine		
<i>P. strobus</i>		C

TABLE I—(Continued).

VC = very common, C = common, S = scarce, R = rare.

Name of Plant	In Wood's Area
Virginia Creeper	
<i>Ampelopsis</i>	C
Hemlock	
<i>Tsuga canadensis</i>	C-
Large-toothed Aspen	
<i>Populus grandidentata</i>	S
Juneberry	
<i>Amelanchier canadensis</i>	S
Tupelo	
<i>Nyssa sylvatica</i>	S
White Ash	
<i>Fraxinus americana</i>	S
Dwarf Juniper	
<i>Juniperus communis</i>	S
Hawthorn	
<i>Crataegus</i> sp.	S
Grape	
<i>Vitis</i> sp.	S
Withe-rod	
<i>Viburnum cassinoides</i>	S
Arrow-wood	
<i>V. dentatum</i>	S
Maple-leaved Viburnum	
<i>V. acerifolium</i>	S
Sheep Laurel	
<i>Kalmia angustifolia</i>	S
Green Briar	
<i>Smilax rotundifolia</i>	R

EXTRALIMITAL (Not in area collected, but within at least a half-mile).

- Quaking Aspen, *P. tremuloides*.
- Sassafras, *S. variifolium*.
- Poison Dogwood, *Rhus vernix*.
- Spicebush, *B. aestivale*.
- Speckled Alder, *A. incana*.
- American Elder, *S. canadensis*.

d. Woods. The dominant features in the determination of the population of this area have just been discussed. The woody plants are listed in Table I. No attempt has been made to

separate the Lepidoptera according to their occurrence in the three land zones. With the adults such separation would of course be impossible, due to their powers of flight and the proximity of the areas. By listing the food-plants of the larvae some separation could be made, but it has been thought best to leave this task for a time when the area has been more thoroughly collected.

LIST OF LEPIDOPTERA.

In the following list the arrangement and taxonomy of the families is that of W. T. M. Forbes in "The Lepidoptera of New York and Neighboring States," Cornell University Agricultural Experiment Station Memoir 68. In the Microlepidoptera, Pyraloids and Bombyces the nomenclature of this work has been followed. In the remainder of the list the nomenclature is that of Barnes & McDunnough's "Check List of the Lepidoptera of Boreal America." Genera and species have been placed in alphabetical order for convenience in reference.

All determinations have been checked by comparison with the Cornell University collection, and in many cases with the U. S. National Museum collection as well. The author is indebted to Dr. Forbes for assistance in the determination of many species throughout, to Messrs. August Busch and Carl Heinrich for checking (and in some cases correcting!) many identifications in the "micros," and to Mr. A. Glenn Richards, Jr., for the identification of most of the Noctuidae. He also wishes to thank many of his friends at East Killingly for their interest and assistance.

Many species of flown "micros" are practically unidentifiable. Such have merely been listed as "sp." or queried. Not much reliance is to be placed on such queried determinations.

Those forms marked with an asterisk are not in the Check List of the Insects of Connecticut, Hartford, 1920, and are therefore presumably new records for that state, even though most of the specimens actually *were* taken in Rhode Island. The author hopes that this complication may not prove embarrassing for those interested in state lists.

NEPTICULIDAE—5 species

- Ectoedemia castaneae* Busck? Jy 25.
 obrutella Z. Jy 23, Aug. 25, Sep. 1.
 * *populella* Busck. Aug. 25.
 **Nepticula bifasciella* Clem. Jy 25.
 latifasciella Chamb.? Aug. 14.

EUCLEIDAE—3 species

Adoneta spinuloides H-S. Jy 20, 21, 25, 27.

Lithacodes fasciola H-S. Jy 21, 23.

**Tortricidia pallida* H-S. Jy 23, 24, 26.

TINEIDAE—16 species

Amydria effrenatella Clem. Jy 21, 22, 23, 24, 25, Aug. 4, 14.
Common.

Diachorisia costisignatella Clem. Aug. 14, 25, 26, Sep. 1.

sp. Jy 25.

sp. Aug. 30.

Hybroma servulella Clem. Jy 25, 27.

Monopis biflavimaculella Clem. Aug. 25.

dorsistrigella. Jy 22, 23, 24, 25.

Scardia approximata Dtz. Jy 20.

Tinea arcella Fabr. Aug. 4.

* *auropulvella* Chamb. Jy 25.

carneriella Clem.? Aug. 26.

croceovorticella Chamb.? Jy 24.

fuscipunctella Haw. Jy 23, 25, Aug. 4, 24, 25, 31.

Some of the specimens are undoubtedly this species,
while others are doubtful.

granella L. Aug. 7.

* *marmorella* Chamb. Aug. 24.

Xylesthia pruniramiella Clem. Jy 21, 25.

TISCHERIIDAE—I species

Tischeria malifoliella Clem. Jy 23.

LYONETIIDAE—I species

Bucculatrix sp. Cocoons common on wire mosquito-netting
of the camp.

OPOSTEGIDAE—I species

Opostega albogalleria var. *quadristrigella* Chamb. Jy 23.

GRACILARIIDAE—4 species

Gracilaria belfrageella Chamb. Jy 23, 25, Aug. 4.

Parornix preciosella Dietz. Aug. 7, 14.

Parornix sp. Aug. 7, 14.

Lithocolletis sp. mining in *Betula populifera*.

COLEOPHORIDAE—4 species

Coleophora atromarginata Braun.? Aug. 7.

cretaticostella Clem.? Aug. 7, 14, 25, 26, 27, 30,
31, Sep. 1.

polemoniella Braun.? Aug. 7.

sp. Jy 21.

OECOPHORIDAE—7 species

Agonopteryx allenella Wals. Jy 22.*Borkhausenia ascriptella* Busck. Jy 20, 21, 23, 24, Aug. 7, 14, 31, Sep. 1. Very common.*Gerdana caritella* Busck. Jy 21.*Martyringa latipennis* Wals. Jy 20, 22, 23, 24, 25, 26, Aug. 3, 4, 14, 26. Very common.*Psilocorsis quercicella* Chamb. Jy 11, 26, 27, Aug. 3. See next species.

**reflexella* Clem. Jy 11, Aug. 3. The adults are often very difficult to distinguish from *quercicella*. The larvae are, however, quite distinct. At Killingly Pond the skeletonizing of oak leaves by the larvae of both species was one of the most noticeable features of the woods.

Schiffermuelleria argenticinctella Clem. Jy 25, 26, 27, Aug. 3, 4. Quite common. The larva mines under the bark of Elder. No Elder occurred within a half-mile of where the adults were collected.

XYLORICTIDAE—I species

Stenomoma querciella Busck. Jy 25, Aug. 7.

GELECHIIDAE—11 species

Anorthosia punctipennella Clem. Jy 11, 21, 24, 26, Aug. 3, 7.*Aristotelia absconditella* Walk. Jy 21, 23, 24.*roseosuffusella* Clem. Jy 21, 22.

*sp. near *pubibundella* Z. The males have a prominent patch of sex-scaling on the under side of the primary.

Battaristis conclusella Walk. Jy 25.*Epitheatia attributella* Walk. Aug. 14.**subsimella* Clem. Aug. 19.*Gelechia trialbamaculella* Clem. Aug. 14.**Glyphidocera aequipulvella* Chamb. Jy 25.*Telphusa palliderosacella* Chamb. Jy 26, Aug. 3.*Trichotaphe setosella* Clem. Sep. 1.

BLASTOBASIDAE—3 species.

Holcocera elyella Dietz. Jy 24.

sp. Aug. 31.

Pigritia sp. Jy 26, Aug. 3.

LAVERNIDAE—2 species.

Lophoptilus eloisella Clem. Jy 24.**Perimede erransella* Chamb. Jy 25, 27, Aug. 7.

GLYPHIPTERYGIDAE—I species.

**Glyphipteryx circumscriptella* Chamb. Jy 11.

TORTRICIDAE—24 species.

**Ancylis floridana* Z. Jy 26.

Archips fervidana Clem. Aug. 7, 14, 26, 27. Common.

infumatana Z. Jy 25.

rosaceana Harr. Aug. 12, 23, 26, 27. Common.

Cnephasia virescana Clem. Jy 21, Aug. 3, 14, Sep. 1.

Epiblema strenuana Walk. Sep. 1.

Epinotia transmissana Walk. Jy 26, Aug. 3, 14.

Eucosma juncticiliana Wals. Jy 24, 25, Aug. 4, 14.

Eulia velutinana Walk. Jy 27.

**Exartema appendicea* Z. Jy 21.

concinna Clem. Jy 11.

fasciatana Clem. Jy 26, 27, Aug 3, 4.

punctana Wlsm. Sep. 1.

**Olethreutes albeolana* Z. Aug. 14.

**fuscalbana* Z. Jy 22, 25.

hemidesma Z. Sep. 1.

**Sparganothis gracilana* Wals. Aug. 14, 19, 29.

**idaeusalis* Walk. Jy 21, 25.

sulfureana Clem. Jy 26, Aug. 30.

**Thiodia alterana* Heinr. Aug. 26.

imbridana Fern. Aug. 14.

ochroterminana Kearf. Jy 28, Aug. 25, 26, 31, Sep. 1.

olivaccana Riley.? Jy 21.

**Tortrix clemensiana* Fern. Jy 22.

PHALONIIDAE—3 species.

Hysterosia baracana Busck. Jy 21.

Phalonia atomosana Busck. Sep. 1.

Phalonia biscana Kearf. Jy 20, Aug. 26.

COSSIDAE—I species.

Prionoxystus robiniae Peck. Jy 29.

PYRALIDIDAE—47 species.

Acrobasis betulella Hulst. Jy 20. A somewhat aberrant specimen.

Argyria nivalis Drury. Jy 21, 22, 23, 24, 25, Aug. 14, 30. Common.

Arta statalis Grote. Jy 20, 21, 22.

Condylolomia participialis Grote. Jy 26.

Crambus albellus Clem. Jy 11 to Aug. Very common.

alboclavellus Z. Jy 26.

elegans Clem. Aug. 14.

hortuellus topiarius Grote. Jy 22.

- luteolellus* Clem. Jy 21.
 **myellus* Hbn. Aug. 30.
 **polingi* Kearf. Jy 21, 26.
ruricolellus Z. Aug. 30, Sep. 1.
trisectus Walk. Sept. 1.
vulgivagellus Clem. Aug. 25, 26, 31, Sep. 1.
 **Elophila plevie* Dyar. Jy 11 (very common), 20, 21, Aug. 19, 27. I do not understand why this species has apparently been so long overlooked in the North. I have found it most abundant in southern New Hampshire (Chesham). The U. S. National Museum collection contains only a few specimens, mostly from Florida, the type locality. It is apparently a lake species, while *fulcalis* is a stream species.
Eoreuma densella Z. Sep. 1.
Euzophera ochrifrontella Z. Jy 26, Aug. 3, 4.
Evergestis straminealis Hon. Sep. 1.
Galasa nigrinodis Z. Jy 21, 26, Aug. 2.
Geshna primordialis Dyar. Jy 11.
Glyptocera consobrinella Z. Jy 24, 26.
Herculia olinalis Guen. Jy 21, Aug. 2, 3, 4, 7, 26.
 **thymetusalis* Walk. Jy 21, Aug. 26.
Homeosoma mucidellum Rag. Aug. 25.
Hulstia undulatella Clem. Sep. 1.
Lipocosma fuliginosalis Fern. Jy 25.
 **Mineola amplexella* Rag. Jy 21.
 indiginella Z. Jy 20.
 **Nymphula gyralis* Hulst. Aug. 26.
 maculalis Clem. Aug. 3, 30.
 **seminealis* Guen. Aug. 30.
Peoria approximella Walk. Jy 24, 25.
Phlyctaenia tertialis Guen. Jy 24.
 terrealis Tr. Aug. 14.
 **Platytes panalope* Dyar. Jy 23, Aug. 27.
 **Poloccia alticolalis* Dyar. Jy 22, Aug. 7, 19, 27.
 **Pyralis costiferalis* Walk. Aug. 25, 27.
 **disciferalis* Dyar. Jy 24, Aug. 27.
Pyrausta funebris Ström. Jy 29.
 fumalis Guen. Aug. 14.
 **Raphiptera argillaceella* Pack. Aug. 26.
 **Salebria heinrichalis* Dyar. Jy 26.
Scoparia basalis Walk. Jy 11 to Sep. 1. Common throughout.
Tetralopha asperatella Clem. Jy 26.
 **Thaumatopsis pexella* Z. Aug. 30.
Varneria postremella Dyar. Jy 22, 25, 26.
Vitula edmandsii Pck. Jy 22, Aug. 14, 27, Sep. 1.

PTEROPHORIDAE—3 species.

- **Platyptilia carduidactyla* Rly. Jy 22.
- **tesseradactyla* L. Sep. 1.

EUPTEROTIDAE—I species.

- Apatelodes torrefacta* S. & A. Jy 24, 25.

LASIOCAMPIDAE—I species.

- Tolype velleda* Stoll. A full-grown larva Aug. 17.

DREPANIDAE—2 species.

- Drepana arcuata* Walk. Aug. 14.
- Eudeilinea hermineata* Gn. Aug. 19.

GEOMETRIDAE—12 species.

- Apicia confusaria* Hbn. Jy 22, 27.
- Cinglis inductata* Gn. Aug. 19, 26, 27, 31, Sep. 1.
- Eustroma diversilineata* Hbn. Aug. 24, Sep. 1.
- Hydria undulata* L. Jy 22, 23, 25.
- Macaria granitata* Gn. Jy 26.
- Metanema inatomaria* Gn. Aug. 14.
- Parallelia bistriaris* Hbn. Jy 26, 27, Aug. 2.
- **Paraphia unipuncta* Haw. Aug. 24, 27, 30.
- Philobia aemulataria* Walk. Aug. 26.
- Physostegania pustularia* Gn. Aug. 25, 27.
- Sabulodes transversata* Dru. Jy 25, Aug. 1, 3, 14, 24, 25, 27, 30, 31.
- Synelys enucleata* Gn. Jy 25, Aug. 1.

SPHINGIDAE—5 species.

- Ampelophaga choerilis* Cr. Jy 26.
- Ceratonia undulosa* Wlk. Jy 22.
- Paonias excaecatus* S. & A. Jy 25.
- myops* S. & A. Jy 24.
- Sphinx kalmiae* S. & A. Jy 30.

NOTODONTIDAE—9 species.

- **Datana drexelii* Hy. Edw. Jy 20, 22.
- ministra* Dru. Jy 25.
- Fentonia marthesia* Cr. Jy 20, 26.
- Gluphisia septentrionalis* Wlk. Aug. 14.
- Harpyia borealis* Bdv. Aug. 7.
- Heterocampa bilineata* Pck. Jy 30.
- Ianassa lignicolor* Wlk. Jy 25.
- Schizura unicornis* S. & A. Aug. 26.
- Symmerista albifrons* S. & A. Jy 23.

LIPARIDAE—2 species.

- Olene atomaria* Walk. Jy 22 to Sept. 1. Common.
- Porthetria dispar*. Regularly in small numbers Jy 25 to Aug.

NOCTUIDAE—63 species.

- Achatodes zea* Harr. Aug. 27.
Agrotis baja Fabr. Aug. 26, Sep. 1.
 bicarnea Gn. Aug. 31.
 geniculata G. & R. Common. Jy 23 to Sep. 1.
 **jucunda* Wlk. Jy 25.
 normaniana Grt. Aug. 24, 25, 31.
 phyllophora Grt. Jy 21, 26.
 unimacula Morr. (*haruspica* Grt.). Jy 24, 25, 28.
 ypsilon Rott. Sep. 3.
Caenurgia erechthea Cr. Jy 24.
Catocala andromedae Gn. Jy 29, 30, Aug. 3.
 epione Dru. Jy 29, Aug. 3, 27, 29.
 gracilis Edw. Jy 29, 30, Aug. 2.
 *f. *sordida* Grt. Aug. 31
 ilia Cr. Jy 26, 27, 29, 30, Aug. 1, 3.
 *f. *conspicua* Worth. Jy 27.
 **similis* Edw. Jy 30.
 ultronia Hbn. Jy 27.
Chutapha periculosa Gn. Aug. 25.
 f. *v-brunneum* Grt. Aug. 26, 29.
**Cirphis insueta* Gn. Jy 21.
 multilinea Wlk. or *phragmatadicola* Gn.? Aug. 27.
**Dyspyralis illocata* Warr. Common. Jy 21 to Aug. 19.
 nigellus Strkr. Jy 20, 22, 25.
Epizeuxis aemula Hbn. Very common Jy 17 to Aug. 24.
 americanalis Gn. Jy 26, Aug. 27, 31.
 l. lubricalis Gey. Jy 24, 26, 30, Aug. 3, 4, 25.
 rotundalis Wlk. Very common, Jy 20 to Aug. 19.
 scobialis Grt. Jy 22, 23, 25, 26, 27.
**Eueretagrotis attentata* Grt. Jy 23.
Euxoa messoria Harr. Aug. 30.
Feltia herilis Grt. Aug. 29.
 subgothica Haw. Aug. 19, 25, 27.
**Gabara bipuncta* Morr. Jy 20, 21, 22.
**Harrisimemna trisignata* Walk. Aug. 3.
Lithacodia bellicula Hbn. Jy 22, Aug. 29.
 muscosula Gn. Jy 21, Aug. 3.
Matuta elimata Gn. Jy 30.
Menopsimus caducus Dyar. Very common, Jy 18 to Sept. 1.
Metalectra discalis Grt. Aug. 1, 3.
 quadrisignata Wlk. (*contracta* Wlk.). Jy 29.
Nephelodes emmedonia Cr. (*minians* Gn.). Aug. 31.
**Oligia minuscula* Morr. Aug. 29.
Palthis angulalis Hbn. Aug. 3.

- Pangrapta decoralis* Hbn. Jy 27, Aug. 3.
Panopoda rufimargo Hbn. Jy 31.
 **Panthea furcilla* Pack. Jy 26, a suffused aberration.
Polia detracta Wlk. Jy 29.
 goodelli Grt. Jy 28.
 purpurissata Grt. Aug. 25, 30.
Porosagrotis vetusta Wlk. Aug. 25, 30.
Pyrophila pyramidoides Gn. Common Jy 26 to Aug. 29.
Renia factiosalis Wlk. Common Jy 20 to Sept. 1.
 flavipunctalis Gey. Jy 31, Aug. 7, 14.
Rhynchagrotis alternata Grt. Jy 29, 31.
Rivula propinqualis Gn. Jy 25.
Salia interpuncta Grt. Jy 28.
Septis arctica Bdv. Aug. 13.
 lignicolor Gn. Jy 27.
Sidemia devastatrix Brace. Aug. 7.
Sideridis congermana Morr. Aug. 1.
Syneda limbolaris Gey. Jy 11, 25.
Trachea indocilis Wlk. Jy 21.
 ***Zanclognatha laevigata* Grt. Very common throughout. Includes named forms *modestalis* Fitch, *reversata* Dyar and *obsoleta* Sm.
 jacchusalis Wlk. Jy 20, 24.
 ochreipennis Grt. Common Jy 11 to Aug. 7.
- ARCTIIDAE—5 species.
Apantesis vittata f. *phalerata* Harr. Aug. 27.
 **Eubaphe aurantiaca* f. *brevicornis* Wlk. Sept. 1.
 f. *immaculata* Reak. Jy 20, 21, 24, 28,
 Aug. 7.
Haploa clymene Brown. Jy 28, Aug. 1.
Hyphantria textor Harr. Jy 20.
Phragmatobia fuliginosa L. Jy 20.
- LITHOSIIDAE—2 species.
Clemensia albata Pack. Jy 20.
Crambidia pallida Pack. Very common throughout.
- NOLIDAE—I species.
Roeselia minuscula Z. Jy 21.
- EUCHROMIIDAE—I species.
Scepsis fulvicollis Hbn. Aug. 19.

The author is fully aware that conclusions drawn from such inadequate data as two months collecting may be misleading. One point, however, seems worthy of notice. Below are listed those families of which the greatest numbers of species were

taken at Killingly Pond, with a similar list compiled from Barnes & McDunnough's Check List for all of Boreal America.

Killingly Pond	Boreal America
1. Noctuidae 63 species	1. Noctuidae ... 2532 species
2. Pyralidae 47	2. Geometridae .. 1024
3. Tortricidae 24	3. Pyralididae .. 955
4. Tineidae 16	4. Tortricidae .. 686
5. Geometridae 12	5. Gelechiidae .. 381
6. Gelechiidae 11	6. Gracilariidae . 196
7. Notodontidae ... 9	7. Arctiidae 196
8. Oecophoridae .. 7	8. Tineidae 127

The most striking feature of a comparison of the two lists is the exceedingly small number of *Geometridae* taken at Killingly, and the disproportionately large number of *Tineidae*. The *Gracilariidae* also occurred in very small numbers, occupying only thirteenth place at best on the Killingly list, in comparison with sixth on the Barnes list. For the small catch of *Geometridae* and *Gracilariidae* little explanation can be offered. Both these families are rather rigidly adapted seasonally, occurring in definite broods, as a response to the seasonal adaptation of their food, the leaves of green plants. The same holds true, however, for many other families, whose numbers were comparatively normal. For the *Geometridae*, moreover, midsummer is the best time for many of the species, and a wooded environment is usually the best. As regards the *Tineidae*, however, there seems to be a logical explanation. Most of the species if not all are scavengers and fungus-eaters. Not only is a damp woodland with plenty of decaying vegetation an ideal spot for such a group, but also such an environment and food tends to make the species more independent of seasonal changes. We should therefore expect to get an abnormally large number of Tineids in a comparatively short period of collecting when a large number of other species would be missed because of the definitely limited period of flight of each species. The Tineid foods are undoubtedly available for a much greater part of the year than are the green leaf foods of most of the other families. The same line of reasoning may be applied in the case of many other scavengers, fungus-feeders, wood-borers, and to a certain degree seed-eaters. The extraordinary abundance of *Crambidia pallida* in the Killingly woods may be traced to the corresponding abundance of its food—lichens—on the granite boulders.

Possibly the abnormally cold nights upset the normal ratios of numbers of moths flying. Why this should not do so equally for all I cannot guess, if indeed it had any effect of the sort.